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AUTHOR Kliment, Stephen A.; Lord, Jane
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ABSTRACT

This is the fourth of seven articles to address the problem of what higher education can do to meet the space needs of new programs and a wider constituency, without resorting to new building. One way to meet space needs is to prospect for available space off campus and by means of rehabilitation or major conversion, to adapt this space to educational needs. This kind of space is know as "found space." Residential, commercial and industrial shifts in urban and suburban areas have left many large, solidly built structures vacant. Such structures are often convertible to educational uses at a cost far below that of constructing an equivalent facility new. How administrators can find and adapt such found space is reviewed in this article, along with some useful examples. (Author)

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Build if you must, but consider...

4 FOUND SPACE

1 Redeploying Campus Space and Time
2 Non-Campus Facilities
3 Modernization
5 Cooperation
6 Interior Facilities
7 Restructuring College Housing

4

This is the fourth of seven articles to address the problem of what higher education can do to meet the space needs of new programs and a wider constituency, without resorting to new building. One way to meet space needs is to prospect for available space off campus and by means of rehabilitation or major conversion, to adapt this space to educational needs. This kind of space is known as "found space." Residential, commercial and industrial shifts in urban and suburban areas have left many large, solidly built structures vacant. Such structures are often convertible to educational uses at a cost far below that of constructing an equivalent facility new. How administrators can find and adapt such found space is reviewed in this article, along with some useful examples. A larger selection of case studies of found space is on hand at Educational Facilities Laboratories. These may be obtained on request from EFL, 477 Madison Avenue, New York, N.Y., 10022. The information for these articles and the complementary case studies comes from a project jointly funded by the Office of Experimental Schools of the National Institute of Education (U.S. Department of Health Education and Welfare), and by Educational Facilities Laboratories.

The Issues

Many urban institutions, boxed into an urban campus founded in more expansive days, have in recent years faced major problems when seeking to acquire costly land for building new facilities within a reasonable distance of the campus. Similarly, new institutions or those whose campuses at one time were largely rural have, with the rapid expansion of the suburbs, also found themselves locked in by the sharply rising costs of land and new construction. In many cases, of course, these institutions have found, within the confines of their campus, buildings which have either outlived their original functions or have merely grown old and delapidated. In such cases, an excellent solution has been to modernize, in varying degrees as dictated by urgency and funds, thereby giving these campus structures a new lease on life. This solution ("Modernization") is described in the third of this series of articles.

If, however, this solution is not possible, or space pressures are too great, then the found space approach is

often an economical, educationally sound and socially popular solution. It can also be, as many administrators, faculty and students and alumni have discovered to their delight, a challenging, invigorating solution.

As a result of the shifting space needs of commerce, industry, churches and well-to-do private citizens, there exists a wealth of attractive, solidly built, adaptable spaces. Those spaces are often located at important transportation nodes, and in a physical condition requiring only modest capital investment to adapt to educational purposes. Moreover, they are often "quick response" types of spaces; they can be taken over rapidly for their new educational function.

There is a fine line between the concept of found space and the concept of non-campus facilities discussed in the second of this series of articles. The key difference is that non-campus facilities are usually chosen on the basis of educational policy or philosophy. For example, a dispersed campus such as Wayne County Community College in Detroit or Flathead Valley Community College in Kalispell, Mont., is there because of a deliberate aim for involvement with a local community. Storefront and other outreach facilities are chosen for the same reason. And non-campus facilities are often used for short periods of time where long-term capital commitments are inappropriate.

Found space, on the other hand, responds more directly to immediate space needs, and for this reason has an entirely different set of criteria determining its selection—proximity to the campus, for example, and others to be discussed in the criteria section of this article.

Many kinds of found space are grist to the educational mill. Alert administrators prospecting for these kinds of space will find them in old factories and warehouses, railroad stations, old breweries, department stores that have moved to the suburbs, big old downtown hotels that are a drug on the market, old office buildings, abandoned military facilities (barracks, mess halls, air plane hangars, etc.) and, most modern of found spaces, thousands of service stations discarded due to gasoline shortages. Even non-buildings, such as ships, can serve as found space, as Stevens Institute of Technology in Hoboken, N.J. discovered to its advantage. Churches, too, as their congregations move to the suburbs, have become a source of stimulating and easily adaptable educational space. The University of Akron, as its enrollment rose from 3,000 to 20,000 over the past twenty years, was able to acquire as many as four churches to help fill its space needs.

Advantages of Found Space

The advantages of the found space approach fall into six categories. The two most crucial ones are time and cost.

Time: With found space, no site clearance or excavation are required and this speeds the move-in date considerably. Similarly, the time consuming design phases of new construction can be reduced to the more limited kinds of design drawings and construction documents required for most major modernization work.

Cost: As a general rule, it will cost less to adapt found space (whether originally programmed for education or not) than it will to acquire land and build from scratch. The reasons for this are several: the inflation of construction costs will obviously take a far lower toll of a project that is completed within a few months than it will on the typical 2-4-year new construction project.

Then, also, as Frederick Wood told EFL's Ben Graves in an article in the January 1972 issue of *College University and Business*, up to one half of the original value of a building hardly deteriorates at all and will not require any work. This includes excavation, footings and foundations, the structural frame, roof deck, exterior walls and glass and, of course, the contractor's overhead and profit on these items. Thus the other half or so of a structure which does deteriorate and will require replacement (roofing, interior partitions and finishes, plumbing, mechanical and electrical work) will sharply reduce the capital investment required to make a building viable.

As another bonus, landscaping is usually mature. And if a new building were to be located on the site of an existing building, the cost of demolition would have to be added to all other costs of new construction. In some cases, found space may be available at nominal cost, especially in the case of government surplus or when a former private owner has a public service interest in higher education. Furthermore, as discussed in the article on modernization, the financial arrangements are generally easier and more flexible where renovation work is concerned.

Location: Found space is often within a stone's throw of the campus. This means that students can reach the facility without special arrangements. In addition, certain types of found space, such as warehouses and industrial plants, often come with generous amounts of parking space, or are located close to public transit. Moreover, a university's interest in found space in an adjacent community or neighborhood helps to repair or cement, as the case may be, good relations with that community.

Visual factors: Many institutions have found themselves in the position of saving magnificent old structures or groups of structures—structures with great nobility, identity, character and warmth, and including many landmarks. Others have found that the great open interior spaces of industrial buildings, churches, depart-

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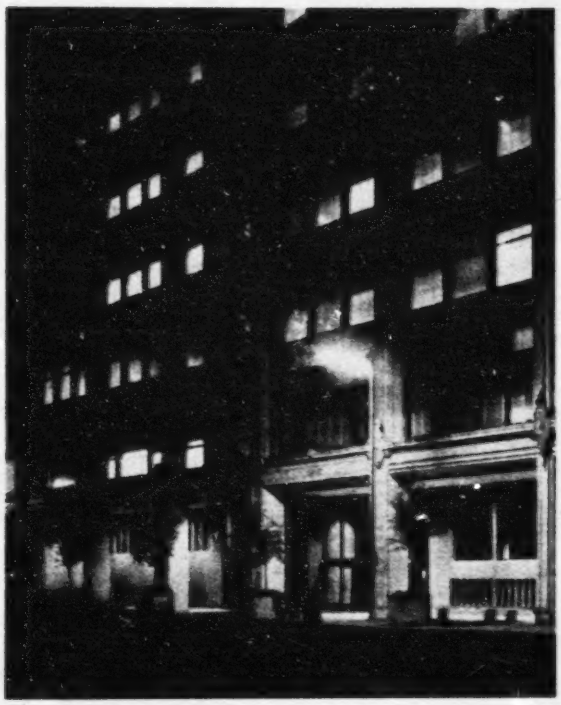
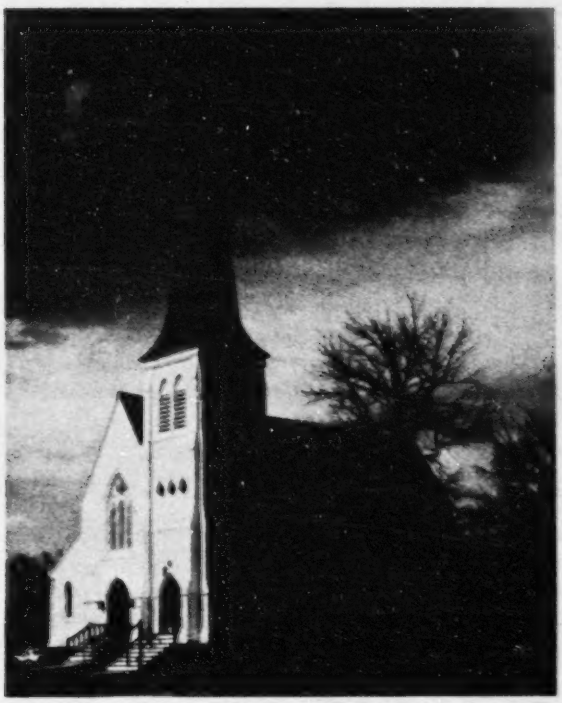
Former tire factory is turned into campus for Hostos Community College in the Bronx, N.Y. College has 10-year lease, with owner responsible for renovation, and the college for taxes, heat and maintenance.

Washington, (D.C.) Technical Institute found 315,000 sq. ft. of instant ivy-covered space at former offices of National Bureau of Standards. The 8-building complex is not far from downtown Washington.

El Centro Community College, Dallas, now occupies block-square complex, including a 9-story former department store built in 1910. The group of buildings cost $4.3 million, and $3 million went for renovation.

Westbrook College in Maine has converted this 100-year old former church into a library (The Wendell White Studio photo).





ment stores and barns have been not only flexible to work with, but a source of aesthetic uplift to the new users.

Life span: The new life span of adapted or renovated found space buildings is usually no less than that of a new structure, especially in the case of warehouses and industrial buildings designed to carry heavy live loads.

Drawbacks and Hindrances

Found space is not without its limitations.

Campus unity: Excess reliance on found space, unless part of a deliberate dispersed campus policy, may tend to dilute campus unity, especially if these found spaces are too widely separated from each other and from the main campus.

Building codes: Most municipalities require modernization of an older building to conform to the latest fire, safety and health provisions of relevant codes. This may require construction of one or more new exit stairs, division of internal space into enclosed fire areas, installation of sprinklers and other automatic fire-fighting equipment or systems, fire-proofing of the structural system, and other measures.

Zoning: Non-educational found space may often be in a zone which does not permit educational use. In such cases, institutions need to appeal to the zoning board for a variance, often a time consuming process.

Mechanical updating: Especially in older buildings, this may take time, money and space to fit modern concepts of comfort.

Fund raising: Many felt at one time that adapting old buildings is not as popular with prospective alumni donors as building new ones. This point of view is changing, however, as more donors are impressed with a college which uses its money efficiently.

Criteria: A Series of Questions

In a useful publication issued in May 1973 by the U.S. Office of Education and by the Department of Defense's Civil Preparedness Agency, entitled "Protected Educational Facilities in Found Space," criteria were converted into a series of major questions. Typical questions follow:

1. **Adequacy:**
   - Is the site large enough?
   - Is the space large enough?
2. **Suitability:**
   - Is the overall condition of the site suitable?
   - Will zoning (ordinances) permit use as an educational facility?
   - Will the space work for or against the program?
   - Can it handle the furnishings and equipment?
   - Can you provide for community use in non-school times?
3. **Safety:**
   - Is the building structurally sound?

[An article by structural engineer Anthony Nasetta in the January 1972 issue of *College and University Business* indicates that buildings erected since the 1920's are easiest to work with structurally since they are mostly steel or concrete framed structures and walls may be torn out with impunity. Buildings put up between 1900 and 1920, often with cast iron columns and built-up steel girders, may have fire resistance ratings far below modern standards. For buildings that predate 1900, remodeling is debatable, especially as many have timber beams and/or posts and updating to meet modern building codes will tend to disqualify such structures for educational uses.]

   - Are there interior hazards? If fire hazards exist, what protection is provided?
   - Does the facility meet code standards?
   - What is the condition of plumbing facilities?
4. **Health:**
   - Is it a comfortable place to be?
5. **Flexibility:**
   - Can space be converted easily?
   - Can it be used in other ways?
   - Could you accommodate a new or different program if necessary?
6. **Accessibility:**
   - Is the location suitable?
   - Can students and staff get to do things they need?
   - Are provisions made for the handicapped?
   - Is it accessible to the public?
7. **Efficiency:**
   - Is the building well located on the site?
   - Can space be easy to maintain?
   - Are all the equipment and services in good condition?
   - Is there more space than you need?
8. **Expansibility:**
   - Is more site available?
   - Is more space available?
9. **Pleasantness:**
   - Is the overall space a nice place to be?
   - How does the exterior look?

The answers to all these questions in the end determine whether the space is viable educationally and, if not, whether it can be adapted at a reasonable cost. What is meant by reasonable?

The third article (entitled Modernization) referred to an arbitrary but still popular measure, namely, if modernization is to cost more than half of what it would cost to erect a new facility, the space is usually not a good bet.

Intangible factors may come in and negate such an index. Those may be the "landmark" value of a structure; a warmth or character which could reduce vandalism, raise attendance, attract parent and local community involvement, and reduce faculty and staff turnover.

It is important not to "overmodernize" a found space. A study entitled "Urban Educational Facilities Options," developed by the New York City School Space Study Committee and sponsored by EFL, points out several instances of found school space in New York City where the cost of modernization was reduced by as much as 90 percent by deciding not to apply standardized modernization procedures (dropped ceilings, egg-crate space division, standardized fluorescent lighting) and instead to use the facility on a largely "as is" basis. This preserves both its character and the kind of flexibility inherent in large spaces.

Case Studies in Found Space

EFL has assembled some 40 examples of found space projects. Representative cases are presented below. All are on file at EFL's offices, available upon request.

Examples fall roughly into six categories, depending on the kind of facility being adapted.

1. Industrial buildings

Because of their size and sturdiness, industrial buildings have many benefits. **Hostos Community College** in the Bronx, N.Y. discovered this while in search of 75,000 sq. ft. of space. It found a tire factory whose owner was making plans to move away. Hostos negotiated a 10-year lease and was able to move into the space promptly. The building is at a major transportation node in the Bronx. While remodeling the building, the college was even able to eke out an extra 20,000 sq. ft. of space, and pay only about half the price of a new building of similar size.

In New Jersey, **Passaic County Community College** bought a former telephone switching station, a conveniently located downtown building which it then remodeled to meet the requirements of self-paced learning.

Kell Hall at **Georgia State University** in Atlanta is a classic example. It shows how an instructional program evolved step by step with the acquisition of found space, which has been remodeled and enlarged as needed. This space is a seven-story parking garage which the university bought in 1946. Since then the building has been remodeled four times to suit expanding and changing needs of the university. At first, only the first two floors were occupied; the university gradually expanded upward as other tenants moved out.

Indeed because of their sturdiness and large size spaces, garages have become a popular type of found space. The new school of architecture at the **City University of New York** remodeled a parking garage at Broadway and 137th Street for its own use, and now accommodates some 1,000 students.

Duquesne University in Pittsburgh, purchasing 21 acres of land from the Pittsburgh Urban Renewal Authority, acquired with it at no cost a "parking garage" built in 1917 to house horses and wagons of a dairy company. The concrete frame building was later used as a repair garage. Duquesne placed in this space its college of arts.

The home of **Vincennes University** in Indiana is now in a series of renovated military and industrial buildings donated by the city of Vincennes. This found space includes a municipal water purification plant, a fruit and ice storage plant, a large former brewery and distillery complex and a series of army surplus buildings. Enrollment at the university has soared from 300 to over 3,000 students in the past twenty years and found space of this nature has taken the space pressures off the administration.

Polytechnic Institute of Brooklyn operates in a former safety razor factory which has been extensively remodeled.

2. Office buildings

Office buildings are another common building type with found space opportunities. **Detroit Institute of Technology**, which for 10 years occupied a downtown 7-story building that had housed labor union offices, moved into the headquarters building of the S.S. Kresge Company in 1973. This building, valued at $12 million, was donated to the institute. Although remodeling has been costly because of the work needed to meet state and city code requirements, it still compares very favorably with the equivalent cost of new construction.

In Washington, D.C., **Washington Technical Institute** has moved into eight buildings that once housed the office of the National Bureau of Standards, which had moved to Maryland. The need to meet city codes raised renovation costs to some $11.00 per sq. ft. Even at that, roof and windows were not renovated and have caused some maintenance problems; toilet facilities are limited; parking is scarce. But this is offset by the good location of the institute and the fact that it was available immediately.

3. Commercial buildings/department stores

As more and more department store owners move to outlying suburban centers, institutions strapped for space have found in these vacated department stores many modestly priced spaces to adapt to educational uses.

In Dallas, **El Centro College**, the first campus of the countywide County Junior College District, operates in five buildings that used to be a department store occupying a full downtown city block. By renovating this complex, El Centro created an indoor downtown campus of over 250,000 sq. ft. The major facility is a 9-story structure built in 1910. The structural frame of the building was used as a grid which allowed much flexibility in the arrangement of spaces.

In Welldon, N.C., **Halifax County Technical Institute** found an 11-acre property with three buildings which were at one time a 68-unit motel, a restaurant and a service station. Site and buildings were bought in 1968 for $60,000, and remodeled into college facilities for another $40,000. Cost of a new facility was estimated at $1 million.

4. Public buildings

Quasi-public buildings such as churches and railroad stations have become elegant sources of found space. In 1965, the **Maryland Institute College of Art** acquired for $250,000 the Mount Royal Station, its 3¾-acre site and air rights from the Baltimore and Ohio and remodeled the station into an art school. Remodeling doubled the usable space, at a total cost of $600,000. In Albany, N.Y., the landmark station of the Delaware & Hudson Railroad will house the central offices of the **State University of New York.**

Four churches have served as a useful container for expansion by the **University of Akron**, with its history of substantial growth over the past 20 years. An Episcopal church donated to the university in 1953 now houses the department of music. The Pentecostal Church of Christ is used as a ballet center; and St. James Methodist Church, which the university acquired in 1971, is used as a general academic facility. A bonus at St. James was a generous 2½-acre parking site. The university recently acquired a fourth church, the Second Baptist Church.

Churches have proven to be excellent for academic purposes, not only because of their flexibility, but also because of the architectural quality of the spaces, materials and ornament

In Portland, Maine, **Westbrook College**, which in 1970 needed a library (rooms allocated to library space were too small and scattered throughout the campus), acquired, in line with a legal agreement dating back over 50 years, a Unitarian church next to the campus which was rapidly losing its congregation. The church, over 100 years old, is in Gothic Revival Style. The college has kept its good image in the community by saving a landmark and at the same time gaining a new library at about one eighth the cost of a new one.

A columnated post office building and a former U.S. court building came to the **University of Texas** in Austin through the Surplus Properties Act, and have been remodeled into attractive offices without spoiling their exterior character.

5. Residential and agricultural buildings

Three large barns and a farmhouse stand on the site of a 200-acre horse breeding farm in Lincroft, N.J. These found spaces were bought by the Monmouth County Board of Freeholders and converted into open plan learning areas and offices for **Brookdale Community College**. The novelty of the environment has been a useful asset to the educational program, to the point where some new facilities erected on the site followed the design language of the original structures. The barns and farmhouse now house the institute of natural and applied sciences of the college, administration functions, the community services and computer centers; the former wagonhouse serves as an interim location for the college store. Renovation took about five months.

In Oakland, Mich., a 1600-acre estate was given to the state in 1959 for educational and public service uses. These buildings have been renovated and are now used by **Oakland University** for various functions. The mansion, for example, is used as a conference center for continuing education.

6. Other colleges

Acquiring a former college is a good way of acquiring instant educational space. When Monticello College, Godfrey, Ill. went out of business in the late 1960's, **Lewis & Clark Community College** bought the 200 acres of woodlands and meadows (on which a women's residential college had been built in the 1890's), and remodeled the buildings in a modest way to serve commuting students.

In Portland, Ore., **Portland Community College**, faced with rapid growth in its student enrollment, acquired part of the campus of a former college to serve as a downtown center for its suburban campus. The campus had been owned by a small church-oriented liberal arts institution that had closed its doors due to dropping enrollment. The building is in a high density residential area and well suited to this need. It has been remodeled to provide a library, counselling office and food services at a cost of $500,000.

Summary and conclusions

Clearly, the quick response and relatively modest cost features of found space have made this approach an attractive solution to the space problems of higher education. Notwithstanding problems of zoning, building codes, and upgrading to higher standards of comfort, space found in existing industrial, public, commercial, office, and in some cases agricultural and private estate facilities has become a welcome source of usable space. Especially desirable in an America increasingly aware of its historic heritage, are the often rich and sometimes picturesque qualities of the older buildings in which higher education has found many new homes.

There are, of course, risks in this process; a large network of separated found space facilities could harm the unity of a campus unless, of course, a dispersed campus is a deliberate institutional goal.

All in all, however, using found space helps to shore up the fabric of our downtown areas by providing for use during the day and night and often on weekends; and in suburban and rural cases, well-built, handsome space, often surrounded by generous acres of green land, ends up providing a functional oasis in the midst of spreading suburban sprawl.

Whether or not combined with the option of modernization of existing, on-campus facilities (described in the third article in this series), found space provides a useful tool to help managers of campus space solve space problems without building new buildings.

Readers who would like additional case studies on found space should write to EFL, 477 Madison Avenue, New York, N.Y. 10022.

—Stephen A. Kliment
Jane Lord